Codata L

THE ROCKEFELLER UNIVERSITY

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cc: Thesum

OFFICE OF THE PRESIDENT

September 30, 1988

Professor Edmund W. Kitch
Joseph M. Hartfield Professor of Law
University of Virginia School of Law
North Grounds
Charlottesville, Virginia 22901

Dear Professor Kitch:

Milton Wessel commended your name to me as a source of advice on the following question.

I am writing to you on behalf of a committee of Codata, an organ of the International Council for Scientific Unions, which is developing a posture on the supporting needs for programs like the project for mapping the human genome. Besides the technical and information handling challenges implicit in this project there are a number of considerations of intellectual property that obviously emerge when information of this potentially very great value is in view. Before adopting a policy stand, the committee charged me to inquire about the current status of law in the U.S. and elsewhere governing property rights in sequence information.

My question to you is for advice, as far as it can be given at a time I know is one of flux, about the rights under copyright or patent law that a scientist has in the discovery of specific sequences of parts of the human or other species genome. I do not speak here of inventions pertaining to the use that may be made of such knowledge in the production and pharmaceutical use of the DNA sequences or of the corresponding proteins that are thereby encoded within the cell.

My naive and legally ill-informed perspective would be that we face a situation analogous to mapper of new terrain on the earth's surface. The producer of a photographic or cardographic map is surely entitled to copyright protection on his particular inscription but I do not believe that would bar others from photographing or charting exactly the same terrain for what ever use he chose. Is that a fair analogy?

If so, what would constitute an infringement? Would that depend on there having been an independent acquisition of the same information? Or would a reformating of the once discovered sequences be sufficient?

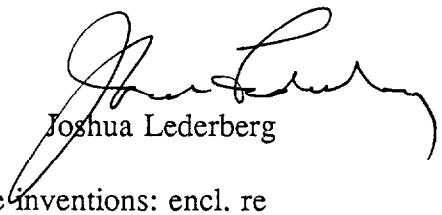
Beyond a statement of current legal doctrine, (or the best references to it) your own judgments about the most appropriate policy positions would be most welcome. Most of our committee leans toward restricting the property attendant on the discovery of what exists in

nature, on the view that unhindered access to that scientific knowledge outweighs the policy interest in adding motivation to the labor of acquiring it. When one of my colleagues publishes the value of a constant of nature in a copyrighted journal I have not felt constrained in using that knowledge in other contexts. But I am not sure of the bounds of copyright protection, or of fair use: e.g. a commercial application of a refined value for the speed of light published in a copyrighted journal.

The U.S. Constitution provides for the protection of "writings and discoveries", but I believe that inventions alone are the subject of our patent laws. If so, it would appear that scientific discovery per se was not intended by Congress to lead to a property interest. On the other hand in the process of determining DNA sequences it is almost routine to be cloning them by implanting short segments into the chromosome of a bacterium like E. coli. This may be held to be an artifact, an invention. Would the patent law allow every such clone to be patented and create a bar to anyone else emulating the same procedure? One might argue that by now this is "entirely obvious" that many such libraries have already been produced and that anyone skilled in the art would know how to extend those libraries. If I am belaboring the obvious it is in some measure because some entrepreneurial scientists like Wally Gilbert have asserted that they would be able to claim either patent or copyright protection for sequences they might delineate out of their own private efforts.

I do thank you in advance for sharing your knowledge and wisdom on these matters.

Yours sincerely,



Joshua Lederberg

P.S. You may be interested in a new wrinkle on claims to derivative inventions: encl. re Cetus PCR.